REMARKS

Priority Document

The applicant acknowledges the certified copy of the priority document is at hand at the Patent Office.

Drawings

The applicant note that the drawings as filed have been approved and that no corrections are deemed necessary at this time.

Information Disclosure Statement

The applicant notes the Examiner's review of the Information Disclosure Statement filed with the case.

Claim status

Claims 1-53 were pending in the case at the time of the Office Action. All stand rejected as being anticipated or obvious over prior art. Claim 21 has been cancelled.

Claim 1 is substantively amended above to claim a device for counting passengers on a transportation vehicle, which is essentially the content of claim 21, which is now cancelled. Also, there is an introduced limitation that the detection device is adapted for mounting above an entrance of the transportation vehicle. As claim 21 was previously directed to a counting device; it has been cancelled.

Claims 2-20 and 22-53 are amended in their preamble, to reflect the preamble of claim 1 as amended. No narrowing amendments are made to these claims.

Section 102 rejections

The Examiner has rejected claims 1-3, 22, 27, 33, 36, and 45-47 as being anticipated by Pantus (US Pat. 5,499,016) ("Pantus '016"). The applicant respectfully traverses this rejection.

The operative features of Pantus '016 appear to be an intrusion detector that 1) senses the presence of a radiation-emitting source in its window of view; and 2) senses an abnormal obstruction of the window, as may be attempted by an intruder. Intrusion detection devices of this type are not particularly useful as devices for detecting radiation-emitting sources when there is a constant movement of radiation-emitting sources in its window, as an alarm signal is a

very binary signal, which is either ON or OFF. Also, Pantus '016 does not teach any device or method for detecting direction of the movement of the radiation-emitting source, which is required by claim 1 (" a detection device for detecting persons or objects and the direction of movement thereof"). For at least this reason, Claims 1-3, 22, 27, 33, 36, and 45-47 are not anticipated by Pantus '016")

Section 103 rejections

The Examiner has rejected claims 25-27 as being obvious over the combination of Pantus '016 with Sheffer (US Pat. 5,101,194) ("Scheffer '194").

It is argued above that a number of claims are not anticipated by Pantus '016, due to missing elements in the claims that are not present in Pantus '016. Claims 25-27 are proper dependent claims of claims 1 and 2, both of which are believed to be allowable over Pantus '016. Scheffer '194 does not provide the missing elements of either claim 1 or 2, so claims 25-27 are allowable, and prompt allowance is urged..

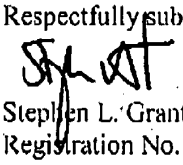
The Examiner has rejected claims 4-21, 23-24, 26, 28, 30-32, 34-35, 37-44, 48-53 as being obvious over the combination of Pantus '016 and Sheffer (US Pat. 5,101,194) ("Scheffer '194") with Vick (US Pat. 5,473,942) ("Vick '942").

It is argued above that a number of claims are not anticipated by Pantus '016, due to missing elements in Pantus '016. As with the argument regarding Scheffer '194, the Examiner has not shown that the missing elements in the amended claims are present in Vick '942. Further, the Examiner has not provided support for the combination of these three pieces of art, and it would seem that only a hindsight reconstruction would provide such support. Thus, all of these claims are also allowable, and prompt allowance is urged..

Accordingly, the applicant respectfully requests reconsideration of the rejections based on the arguments made above. After such reconsideration, it is urged that allowance of all claims will be in order.

Although the undersigned attorney is now resident in the Columbus, Ohio, office of the firm, all written correspondence should continue to be directed to the firm's Akron, Ohio, address provided below.

Respectfully submitted,



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AMENDMENTS TO THE CLAIMS

Please amend the claims as they currently stand so that they are in accord with the following listing of the claims:

1. (currently amended) A device for counting passengers on a transportation vehicle, said counting device comprising:

a detection device for detecting persons or objects and the direction of movement thereof, comprising:

a radiation sensor arrangement for detecting electromagnetic radiation of the wavelength of visible and/or invisible light, which emanates from the person or object, and

an evaluation unit that is connected to the sensor arrangement and that forms a variation signal which corresponds to a time variation of the radiation detected by the radiation sensor arrangement,

wherein the detection device further comprises a means for individualizing that is connected to the evaluation unit and that obtains information individualizing the object or person, and that is connected to a store that stores at least a portion of the variation signal and the information individualizing the object or the person as a characteristic parameter in association with the variation signal, and

wherein the detection device further comprises a means for determining a parameter that is connected to the evaluation unit and that delivers an additional signal, and

wherein the evaluation unit forms the characteristic parameter in dependence on the additional signal,

wherein the parameter-determining means comprises a radiation source for radiation which can be detected by the sensor arrangement or alternatively or additionally to the radiation source comprises an additional sensor for detecting a person-individual signal; and

a counter connected to the detection device; and

wherein the device is adapted to be mounted above an entrance to the transportation vehicle.

2. (currently amended) The counting ~~detection~~ device of claim 1, wherein the individualising means forms the characteristic parameter from the morphology of the variation signal.

3. (currently amended) The counting ~~detection~~ device of claim 2, wherein the radiation source is an infrared light source which preferably emits radiation in the wavelength range of greater than 1400 nm.

4. (currently amended) The counting ~~detection~~ device of claim 3, wherein the evaluation unit is connected to the radiation source and the sensor arrangement determines, as an additional signal, the transit time of a signal which is emitted by the radiation source and reflected by the object or person and received by the sensor arrangement.

5. (currently amended) The counting ~~detection~~ device of claim 4, wherein the evaluation unit is connected to the radiation source and the sensor arrangement and determines a degree of reflection as an additional signal.

6. (currently amended) The counting ~~detection~~ device of claim 5, wherein the radiation source emits a coded signal and wherein the evaluation unit determines the proportion of the coded signal in the radiation received by the sensor arrangement.

7. (currently amended) The counting ~~detection~~ device of claim 6, wherein the evaluation unit forms a degree of reflection from the ratio of the intensity of the proportion of the coded signal in the radiation received by the sensor arrangement to the intensity of the radiation emitted by the radiation source.

8. (currently amended) The counting detection device of claim 7, wherein the coded signal is a periodic signal and wherein the evaluation unit determines the transit time of a reflected

signal in dependence on the phase relationship between a coded signal received by the sensor arrangement and a coded signal emitted by the radiation source.

9. (currently amended) The counting ~~detection~~ device of claim 8, wherein the sensor arrangement comprises at least two sensor elements and wherein the evaluation unit forms at least two variation signals for different sensor elements.

10. (currently amended) The counting ~~detection~~ device of claim 9, wherein the evaluation unit compares portions of one or more variation signals which were recorded at the same time as each other or in time-displaced relationship.

11. (currently amended) The counting ~~detection~~ device of claim 10, wherein the evaluation unit forms a correlation coefficient by comparing the variation signal portions.

12. (currently amended) The counting ~~detection~~ device of claim 11, wherein the evaluation unit implements a plurality of times comparison of signal portions originating from different sensor elements, in such a way that the signal portions for each comparison are shifted in time relative to each other by different time differences, and wherein a transit time signal is formed, which corresponds to that time displacement which affords the greatest similarity or best correlation of the signal portions being compared.

13. (currently amended) The counting ~~detection~~ device of claim 12, wherein the evaluation unit forms a speed signal from the transit time signal and from a predeterminable spacing of those sensor elements at which the signal portions used for forming the transit time signal have their origin.

14. (currently amended) The counting ~~detection~~ device of claim 13, wherein a plurality of sensor elements are arranged matrix-like and wherein the evaluation unit compares signal portions originating from different sensor elements in mutually time-displaced relationship and derives a direction signal from the signal portion comparison operation, in such a way that a

direction vector results from the spatial arrangement of those sensor elements which are associated with the signal portions of greatest similarity.

15. (currently amended) The counting ~~detection~~ device of claim 14, wherein the evaluation unit forms at least one parameter which describes a signal portion and stores said parameter in the store.

16. (currently amended) The counting ~~detection~~ device of claim 15, wherein the evaluation unit and the store are so connected and adapted that a signal portion and at least one parameter describing said signal portion can be stored in association with each other in the store.

17. (currently amended) The counting ~~detection~~ device of claim 16, wherein the evaluation unit detects the greatest amplitude of a signal portion as the parameter describing the signal portion and stores same in the store.

18. (currently amended) The counting ~~detection~~ device of claim 17, wherein the additional sensor detects hair color and delivers an additional signal which is dependent on hair color.

19. (currently amended) The counting ~~detection~~ device of claim 17, wherein the additional sensor is a microphone for detecting an acoustic signal and delivering an additional signal which is dependent on the acoustic signal.

20. (currently amended) The counting ~~detection~~ device of claim 17, wherein the additional sensor detects a scent signal and delivers an additional signal which is dependent on the scent signal.

21. (cancelled)

22. (currently amended) The counting ~~detection~~ device of claim 1, wherein the radiation source is an infrared light source which preferably emits radiation in the wavelength range of greater than 1400 nm.

23. (currently amended) The counting ~~detection~~ device of claim 1, wherein the evaluation unit is connected to the radiation source and the sensor arrangement and determines, as an additional signal, the transit time of a signal which is emitted by the radiation source and reflected by the object or person and received by the sensor arrangement.

24. (currently amended) The counting detection device of claim 2, wherein the evaluation unit is connected to the radiation source and the sensor arrangement and determines, as an additional signal, the transit time of a signal which is emitted by the radiation source and reflected by the object or person and received by the sensor arrangement.

25. (currently amended) The counting ~~detection~~ device of claim 1, wherein the evaluation unit is connected to the radiation source and the sensor arrangement and determines a degree of reflection as an additional signal.

26. (currently amended) The counting ~~detection~~ device of claim 24, wherein the evaluation unit is connected to the radiation source and the sensor arrangement and determines a degree of reflection as an additional signal.

27. (currently amended) The counting ~~detection~~ device of claim 1, wherein the radiation source emits a coded signal and wherein the evaluation unit determines the proportion of the coded signal in the radiation received by the sensor arrangement.

28. (currently amended) The counting detection device of claim 26, wherein the radiation source emits a coded signal and wherein the evaluation unit determines the proportion of the coded signal in the radiation received by the sensor arrangement.

29. (currently amended) The counting ~~detection~~ device of claim 27, wherein the evaluation unit forms a degree of reflection from the ratio of the intensity of the proportion of the coded signal in the radiation received by the sensor arrangement to the intensity of the radiation emitted by the radiation source.

30. (currently amended) The counting ~~detection~~ device of claim 28, wherein the evaluation unit forms a degree of reflection from the ratio of the intensity of the proportion of the coded signal in the radiation received by the sensor arrangement to the intensity of the radiation emitted by the radiation source.

31. (currently amended) The counting ~~detection~~ device of claim 29, wherein the coded signal is a periodic signal and wherein the evaluation unit determines the transit time of a reflected signal in dependence on the phase relationship between a coded signal received by the sensor arrangement and a coded signal emitted by the radiation source.

32. (currently amended) The counting ~~detection~~ device of claim 30, wherein the coded signal is a periodic signal and wherein the evaluation unit determines the transit time of a reflected signal in dependence on the phase relationship between a coded signal received by the sensor arrangement and a coded signal emitted by the radiation source.

33. (currently amended) The counting ~~detection~~ device of claim 1, wherein the sensor arrangement comprises at least two sensor elements and wherein the evaluation unit forms at least two variation signals for different sensor elements.

34. (currently amended) The counting ~~detection~~ device of claim 31, wherein the sensor arrangement comprises at least two sensor elements and wherein the evaluation unit forms at least two variation signals for different sensor elements.

35. (currently amended) The counting ~~detection~~ device of claim 32, wherein the sensor arrangement comprises at least two sensor elements and wherein the evaluation unit forms at least two variation signals for different sensor elements.

36. (currently amended) The counting ~~detection~~ device of claim 1, wherein the evaluation unit compares portions of one or more variation signals which were recorded at the same time as each other or in time-displaced relationship.

37. (currently amended) The counting ~~detection~~ device of claim 34, wherein the sensor arrangement comprises at least two sensor elements and wherein the evaluation unit forms at least two variation signals for different sensor elements.

38. (currently amended) The counting ~~detection~~ device of claim 35, wherein the sensor arrangement comprises at least two sensor elements and wherein the evaluation unit forms at least two variation signals for different sensor elements.

39. (currently amended) The counting ~~detection~~ device of claim 36, wherein the evaluation unit forms a correlation coefficient by comparing the variation signal portions.

40. (currently amended) The counting ~~detection~~ device of claim 37, wherein the evaluation unit forms a correlation coefficient by comparing the variation signal portions.

41. (currently amended) The counting ~~detection~~ device of claim 38, wherein the evaluation unit forms a correlation coefficient by comparing the variation signal portions.

42. (currently amended) The counting ~~detection~~ device of claim 39, wherein the evaluation unit implements a plurality of times comparison of signal portions originating from different sensor elements, in such a way that the signal portions for each comparison are shifted in time relative to each other by different time differences, and wherein a transit time signal is formed,

which corresponds to that time displacement which affords the greatest similarity or best correlation of the signal portions being compared.

43. (currently amended) The counting ~~detection~~ device of claim 42, wherein the evaluation unit forms a speed signal from the transit time signal and from a predeterminable spacing of those sensor elements at which the signal portions used for forming the transit time signal have their origin.

44. (currently amended) The counting ~~detection~~ device of claim 1, wherein a plurality of sensor elements are arranged matrix-like and wherein the evaluation unit compares signal portions originating from different sensor elements in mutually time-displaced relationship and derives a direction signal from the signal portion comparison operation, in such a way that a direction vector results from the spatial arrangement of those sensor elements which are associated with the signal portions of greatest similarity.

45. (currently amended) The counting ~~detection~~ device of claim 1, wherein the evaluation unit forms at least one parameter which describes a signal portion and stores said parameter in the store.

46. (currently amended) The counting ~~detection~~ device of claim 45, wherein the evaluation unit and the store are so connected and adapted that a signal portion and at least one parameter describing said signal portion can be stored in association with each other in the store.

47. (currently amended) The counting detection device of claim 46, wherein the evaluation unit detects the greatest amplitude of a signal portion as the parameter describing the signal portion and stores same in the store.

48. (currently amended) The counting ~~detection~~ device of claim 47, wherein the additional sensor detects hair color and delivers an additional signal which is dependent on hair color.

49. (currently amended) The counting ~~detection~~ device of claim 1, wherein the additional sensor detects hair color and delivers an additional signal which is dependent on hair color.

50. (currently amended) The counting ~~detection~~ device of claim 47, wherein the additional sensor is a microphone for detecting an acoustic signal and delivering an additional signal which is dependent on the acoustic signal.

51. (currently amended) The counting ~~detection~~ device of claim 1, wherein the additional sensor is a microphone for detecting an acoustic signal and delivering an additional signal which is dependent on the acoustic signal.

52. (currently amended) The counting ~~detection~~ device of claim 47, wherein the additional sensor detects a scent signal and delivers an additional signal which is dependent on the scent signal.

53. (currently amended) The counting ~~detection~~ device of claim 1, wherein the additional sensor detects a scent signal and delivers an additional signal which is dependent on the scent signal.